

117TH CONGRESS
2D SESSION

S. _____

To establish and maintain a coordinated program within the National Oceanic and Atmospheric Administration that improves wildfire, fire weather, fire risk, and smoke related forecasting, detection, modeling, observations, and service delivery, and to address growing needs in the wildland-urban interface, and for other purposes.

IN THE SENATE OF THE UNITED STATES

Ms. CANTWELL (for herself and Mr. SULLIVAN) introduced the following bill; which was read twice and referred to the Committee on

A BILL

To establish and maintain a coordinated program within the National Oceanic and Atmospheric Administration that improves wildfire, fire weather, fire risk, and smoke related forecasting, detection, modeling, observations, and service delivery, and to address growing needs in the wildland-urban interface, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

4 (a) SHORT TITLE.—This Act may be cited as the
5 “Fire Ready Nation Act of 2022”.

1 (b) TABLE OF CONTENTS.—The table of contents for
2 this Act is as follows:

- Sec. 1. Short title; table of contents.
- Sec. 2. Definitions.
- Sec. 3. Establishment of fire weather services program.
- Sec. 4. National Oceanic and Atmospheric Administration data management.
- Sec. 5. Digital fire weather services and data management.
- Sec. 6. High-performance computing.
- Sec. 7. Government Accountability Office report on fire weather services program.
- Sec. 8. Fire weather testbed.
- Sec. 9. Fire weather surveys and assessments.
- Sec. 10. Incident Meteorologist Service.
- Sec. 11. Automated surface observing system.
- Sec. 12. Emergency response activities.
- Sec. 13. Government Accountability Office report on interagency wildfire forecasting, prevention, planning, and management bodies.
- Sec. 14. Amendments to Infrastructure Investment and Jobs Act relating to wildfire mitigation.
- Sec. 15. Wildfire technology modernization amendments.
- Sec. 16. Cooperation; coordination; support to non-Federal entities.
- Sec. 17. International coordination.
- Sec. 18. Submissions to Congress regarding the fire weather services program, incident meteorologist workforce needs, and National Weather Service workforce support.
- Sec. 19. Authorization of appropriations.

3 **SEC. 2. DEFINITIONS.**

4 In this Act:

5 (1) ADMINISTRATION.—The term “Administra-
6 tion” means the National Oceanic and Atmospheric
7 Administration.

8 (2) APPROPRIATE COMMITTEES OF CON-
9 GRESS.—The term “appropriate committees of Con-
10 gress” means—

11 (A) the Committee on Commerce, Science,
12 and Transportation of the Senate; and

13 (B) the Committee on Science, Space, and
14 Technology of the House of Representatives.

1 (3) DECADAL.—The term “decadal” means a
2 time range from multiple years to multiple decades.

3 (4) EARTH SYSTEM MODEL.—The term “Earth
4 system model” means a mathematical model con-
5 taining all components of the Earth, namely the at-
6 mosphere, oceans, land, cryosphere, and biosphere.
7 The Earth system model represents the critical
8 physical, chemical, and biological processes and the
9 interactions among those processes in hydrological
10 and biogeochemical cycles that affect weather and
11 climate.

12 (5) FIRE ENVIRONMENT.—The term “fire envi-
13 ronment” means—

14 (A) the environmental conditions, such as
15 soil moisture, vegetation, topography, snowpack,
16 atmospheric temperature, moisture, and wind,
17 that influence—

18 (i) fuel and fire behavior; and

19 (ii) smoke dispersion and transport;

20 and

21 (B) the associated environmental impacts
22 occurring during and after fire events.

23 (6) FIRE WEATHER.—The term “fire weather”
24 means any type of weather conditions that influence
25 the start, spread, character, or behavior of wildfire

1 or fires at the wildland-urban interface and all asso-
2 ciated meteorological and chemical phenomena, in-
3 cluding air quality, smoke, and meteorological pa-
4 rameters such as relative humidity, air temperature,
5 wind speed and direction, and atmospheric composi-
6 tion and chemistry, including emissions and mixing
7 heights.

8 (7) IMPACT-BASED DECISION SUPPORT SERV-
9 ICES.—The term “impact-based decision support
10 services” means forecast advice and interpretative
11 services the Administration provides to help core
12 partners, such as emergency personnel and public
13 safety officials, make decisions when weather, water,
14 and climate impact the lives and livelihoods of the
15 people of the United States.

16 (8) SEASONAL.—The term “seasonal” means a
17 time range between 3 months and 2 years.

18 (9) SECRETARY.—The term “Secretary” means
19 the Secretary of Commerce.

20 (10) SMOKE.—The term “smoke” means emis-
21 sions, including the gases and particles released into
22 the air as a result of combustion.

23 (11) STATE.—The term “State” means a State,
24 the District of Columbia, the Commonwealth of
25 Puerto Rico, Guam, American Samoa, the Common-

1 wealth of the Northern Mariana Islands, the United
2 State Virgin Islands, the Federated States of Micro-
3 nesia, the Republic of the Marshall Islands, or the
4 Republic of Palau.

5 (12) SUBSEASONAL.—The term “subseasonal”
6 means a time range between 2 weeks and 3 months.

7 (13) TRIBAL GOVERNMENT.—The term “Tribal
8 government” means the recognized governing body
9 of any Indian or Alaska Native tribe, band, nation,
10 pueblo, village, community, component band, or com-
11 ponent reservation, individually identified (including
12 parenthetically) in the list published most recently as
13 of the date of enactment of this Act pursuant to sec-
14 tion 104 of the Federally Recognized Indian Tribe
15 List Act of 1994 (25 U.S.C. 5131).

16 (14) UNDER SECRETARY.—The term “Under
17 Secretary” means the Under Secretary of Commerce
18 for Oceans and Atmosphere.

19 (15) WEATHER ENTERPRISE.—The term
20 “weather enterprise” means—

21 (A) individuals, organizations, offices, pro-
22 grams, or any other form of entity from public,
23 private, and academic sectors that contribute to
24 the research, development, and production of
25 weather forecast products; and

1 (B) primary consumers of those weather
2 forecast products.

3 (16) WILDFIRE.—The term “wildfire” means
4 any non-structure fire that occurs in vegetation or
5 natural fuels, originating from an unplanned igni-
6 tion.

7 (17) WILDLAND-URBAN INTERFACE.—The term
8 “wildland-urban interface” means the area, zone, or
9 region of transition between unoccupied or undevel-
10 oped land and human development where structures
11 and other human development meet or intermingle
12 with undeveloped wildland or vegetative fuels.

13 **SEC. 3. ESTABLISHMENT OF FIRE WEATHER SERVICES**
14 **PROGRAM.**

15 (a) IN GENERAL.—The Under Secretary shall estab-
16 lish and maintain a coordinated fire weather services pro-
17 gram within the Administration.

18 (b) PROGRAM FUNCTIONS.—The functions of the
19 program established under subsection (a), consistent with
20 the priorities described in section 101 of the Weather Re-
21 search and Forecasting Innovation Act of 2017 (15 U.S.C.
22 8511), shall be—

23 (1) to support readiness, responsiveness, under-
24 standing, and overall resilience of the United States
25 to wildfires, fire weather, smoke, and other associ-

1 ated conditions, hazards, and impacts in built and
2 natural environments and at the wildland-urban
3 interface;

4 (2) to collaboratively disseminate accurate, pre-
5 cise, effective, and timely risk communications, fore-
6 casts, watches, and warnings relating to wildfires,
7 fire weather, air quality, smoke, and other associated
8 conditions, hazards, and impacts, as applicable, in
9 collaboration with Federal land management agen-
10 cies;

11 (3) to partner with and support the public,
12 Federal, State, and Tribal governments, and aca-
13 demic and local partners through the development of
14 capabilities, impact-based decision support services,
15 and overall service delivery and utility;

16 (4) to conduct and support research and devel-
17 opment of new and innovative models, technologies,
18 techniques, products, systems, processes, and proce-
19 dures to improve understanding of wildfires, fire
20 weather, air quality, the fire environment, including
21 impacts of climate variability and changing climate
22 conditions, smoke, and associated conditions, haz-
23 ards, and impacts, and to transition such research
24 into effective operations;

1 (5) to develop strong research-to-operations and
2 operations-to-research transitions, in order to facili-
3 tate delivery of products, services, and tools to oper-
4 ational users and platforms; and

5 (6) to develop, in coordination with Federal
6 land management agencies, impact-based decision
7 support services that operationalize and integrate
8 the functions described in paragraphs (1) through
9 (5) in order to provide comprehensive impact-based
10 decision support services that encompass the fire en-
11 vironment.

12 (c) PROGRAM PRIORITIES.—In developing and imple-
13 menting the program established under subsection (a), the
14 Under Secretary shall prioritize—

15 (1) development of a fire weather-enabled Earth
16 system model and data assimilation systems that—

17 (A) are capable of prediction and fore-
18 casting across all timescales;

19 (B) include variables associated with fire
20 weather, air quality from smoke, and the fire
21 environment, and other variables, as determined
22 by the Under Secretary;

23 (C) improve understanding of the connec-
24 tions between fire weather and modes of climate
25 variability; and

1 (D) incorporate emerging techniques such
2 as artificial intelligence, machine learning, and
3 cloud computing;

4 (2) advancement of observational capabilities,
5 including satellite-, airborne-, air-, and ground-based
6 systems and technologies that—

7 (A) identify—

8 (i) high-risk pre-ignition conditions;

9 (ii) conditions that influence fire be-
10 havior and spread including those condi-
11 tions that suppress active fire events; and

12 (iii) fire risk values;

13 (B) support real-time notification of igni-
14 tions;

15 (C) support observations and data collec-
16 tion of fire weather and fire environment vari-
17 ables for development of the model and systems
18 under paragraph (1); and

19 (D) support forecasts and advancing un-
20 derstanding and research of the impacts of
21 wildfires on human health, ecosystems, climate,
22 transportation, and economies; and

23 (3) development and implementation of ad-
24 vanced and user-oriented impact-based decision
25 tools, science, and technologies that—

1 (A) ensure real-time and retrospective
2 data, products, and services are findable, acces-
3 sible, interoperable, usable, inform further re-
4 search, and are analysis- and decision-ready;

5 (B) provide targeted information through-
6 out the fire lifecycle including pre-ignition, de-
7 tection, forecasting, post-fire, and monitoring
8 phases; and

9 (C) support early assessment of post-fire
10 hazards, such as air quality, debris flows,
11 mudslides, and flooding.

12 (d) PROGRAM ACTIVITIES.—In developing and imple-
13 menting the program established under subsection (a), the
14 Under Secretary may—

15 (1) conduct relevant physical and social science
16 research activities in support of the functions de-
17 scribed in subsection (b) and the priorities described
18 in subsection (c);

19 (2) conduct relevant activities, in coordination
20 with Federal land management agencies, to assess
21 fuel characteristics, including moisture, loading, and
22 other parameters used to determine fire risk levels
23 and outlooks;

24 (3) support and conduct research that assesses
25 impacts to marine, riverine, and other relevant eco-

1 systems, which may include forest and rangeland
2 ecosystems, resulting from activities associated with
3 mitigation of and response to wildfires;

4 (4) support and conduct attribution science re-
5 search relating to wildfires, fire weather, fire risk,
6 smoke, and associated conditions, risks, and im-
7 pacts;

8 (5) develop smoke and air quality forecasts,
9 forecast guidance, and prescribed burn weather fore-
10 casts, and conduct research on the impact of such
11 forecasts on response behavior that minimizes
12 health-related impacts from smoke exposure;

13 (6) use, in coordination with Federal land man-
14 agement agencies, wildland fire resource intelligence
15 to inform fire environment impact-based decision
16 support products and services for safety;

17 (7) evaluate and provide data, tools, and serv-
18 ices to support determinations for the implementa-
19 tion of mitigation measures such as prescribed burns
20 and selective thinning;

21 (8) provide comprehensive training to ensure
22 staff of the program established under subsection
23 (a) is properly equipped to deliver the impact-based
24 decision support products and services described in
25 paragraphs (1) through (6); and

1 (9) acquire through contracted purchase private
2 sector-produced observational data to fill identified
3 gaps, as needed.

4 (e) COLLABORATION; AGREEMENTS.—

5 (1) COLLABORATION.—The Under Secretary
6 shall, as the Under Secretary considers appropriate,
7 collaborate and consult with partners in the weather
8 and climate enterprises, academic institutions,
9 States, Tribal governments, local partners, and Fed-
10 eral agencies, including land and fire management
11 agencies, in the development and implementation of
12 the program established under subsection (a).

13 (2) AGREEMENTS.—The Under Secretary may
14 enter into agreements in support of the functions de-
15 scribed in subsection (b), the priorities described in
16 subsection (c), the activities described in subsection
17 (d), and activities carried out under section 8.

18 **SEC. 4. NATIONAL OCEANIC AND ATMOSPHERIC ADMINIS-**
19 **TRATION DATA MANAGEMENT.**

20 Section 301 of the Weather Research and Fore-
21 casting Innovation Act of 2017 (15 U.S.C. 8531) is
22 amended—

23 (1) by redesignating subsections (f) and (g) as
24 subsections (g) and (h), respectively; and

1 cial partnerships, and the skilled
2 workforce needed to provide appro-
3 priate data management from collec-
4 tion to broad access; and

5 “(II) associated information serv-
6 ices; and

7 “(ii) pursuing the maximum inter-
8 operability of data and information by—

9 “(I) leveraging data, information,
10 knowledge, and tools from across the
11 Federal Government to support equi-
12 table access, cross-sectoral collabora-
13 tion and innovation, and local plan-
14 ning and decision-making; and

15 “(II) developing standards and
16 practices for the adoption and citation
17 of digital object identifiers for
18 datasets, models, and analytical tools.

19 “(2) COLLABORATION.—In carrying out this
20 subsection, the Under Secretary shall collaborate
21 with such Federal partners and stakeholders as the
22 Under Secretary considers relevant—

23 “(A) to develop standards to pursue max-
24 imum interoperability of data, information,
25 knowledge, and tools across the Federal Gov-

1 ernment, convert historical records into com-
2 mon digital formats, and improve access and
3 usability of data by partners and stakeholders;

4 “(B) to identify and solicit relevant data
5 from Federal and international partners and
6 other relevant stakeholders, as the Under Sec-
7 retary considers appropriate; and

8 “(C) to develop standards and practices for
9 the adoption and citation of digital object iden-
10 tifiers for datasets, models, and analytical
11 tools.”.

12 **SEC. 5. DIGITAL FIRE WEATHER SERVICES AND DATA MAN-**
13 **AGEMENT.**

14 (a) IN GENERAL.—

15 (1) DIGITAL PRESENCE.—The Under Secretary
16 shall develop and maintain a comprehensive, central-
17 ized, and publicly accessible digital presence de-
18 signed to promote findability, accessibility, interoper-
19 ability, usability, and utility of the services, tools,
20 data, and information produced by the program es-
21 tablished under section 3(a).

22 (2) DIGITAL PLATFORM AND TOOLS.—In car-
23 rying out paragraph (1), the Under Secretary
24 shall—

1 (A) seek to ensure the digital platform and
2 tools of the Administration integrate geospatial
3 data, decision support tools, training, and best
4 practices to provide real-time fire weather fore-
5 casts and address fire-related issues and needs;
6 and

7 (B) strive to enhance community resilience,
8 ecosystem values, and economic growth and de-
9 velopment by helping communities and other
10 users of the digital platform and tools address
11 their issues, needs, and challenges through
12 maximum usability and utility.

13 (b) PUBLIC AVAILABILITY.—The Under Secretary
14 shall make all data, research, reports, findings, surveys,
15 and assessments relevant to the program established
16 under section 3(a), as determined by the Under Secretary,
17 available in a publicly accessible digital format.

18 (c) INTERNET-BASED TOOLS.—In carrying out sub-
19 sections (a) and (b), the Under Secretary shall develop
20 and implement internet-based tools, such as webpages and
21 smartphone and other mobile applications, to increase util-
22 ity and access to services and products for the benefit of
23 users.

1 (d) DATA MANAGEMENT.—The Under Secretary
2 shall develop and maintain services that provide public ac-
3 cess to digital fire weather data and information—

4 (1) to improve understanding and historical
5 analysis of wildfire and fire weather science, includ-
6 ing inventories of fire emissions required for multi-
7 decadal model runs;

8 (2) to support—

9 (A) the archiving, stewardship, utility, and
10 preservation of wildfire and fire weather data
11 including satellite-, ground-, airborne-, and air-
12 based observations; and

13 (B) real-time and retrospective model fore-
14 casts;

15 (3) to promote findability, interoperability,
16 analysis- and decision-readiness, and reusability of
17 historical and near real-time data across Federal,
18 State, Tribal, and local users, including ensuring
19 digital access and machine-readability of historical
20 fire weather records; and

21 (4) to support equitable access, cross-sectoral
22 collaboration and innovation, and local planning and
23 decision making.

1 **SEC. 6. HIGH-PERFORMANCE COMPUTING.**

2 (a) IN GENERAL.—The Under Secretary shall seek
3 to acquire sufficient high-performance computing re-
4 sources and capacity for research, operations, and data
5 storage in support of the program established under sec-
6 tion 3(a).

7 (b) CONSIDERATIONS.—In acquiring high-perform-
8 ance computing capacity under subsection (a), the Under
9 Secretary shall consider requirements needed for—

10 (1) the transition of research and testbed devel-
11 opments into operations; and

12 (2) skilled workforce development.

13 **SEC. 7. GOVERNMENT ACCOUNTABILITY OFFICE REPORT**
14 **ON FIRE WEATHER SERVICES PROGRAM.**

15 (a) IN GENERAL.—Not later than 5 years after the
16 date of the enactment of this Act, the Comptroller General
17 of the United States shall submit to Congress a report
18 on the program established under section 3(a).

19 (b) ELEMENTS.—The report required by subsection
20 (a) shall—

21 (1) evaluate the performance of the program by
22 establishing initial baseline capabilities and tracking
23 progress made toward fully operationalizing the
24 functions described in section 3(b);

25 (2) assess the efficacy of cross-agency collabora-
26 tion and stakeholder engagement in carrying out the

1 program and provide recommendations to improve
2 such activities;

3 (3) assess the program for inefficiencies, iden-
4 tify duplicative efforts across Federal efforts, and
5 provide relevant recommendations; and

6 (4) include such other recommendations as the
7 Comptroller General determines are appropriate to
8 improve the program.

9 **SEC. 8. FIRE WEATHER TESTBED.**

10 (a) ESTABLISHMENT OF FIRE WEATHER
11 TESTBED.—The Under Secretary shall establish a fire
12 weather testbed that enables engagement across the Fed-
13 eral Government, State and local governments, academia,
14 private and federally funded research laboratories, the pri-
15 vate sector, and end-users in order to evaluate the accu-
16 racy and usability of technology, models, fire weather
17 products and services, and other research to accelerate the
18 implementation, transition to operations, and use of new
19 capabilities by the Administration, Federal and land man-
20 agement agencies, and other relevant stakeholders.

21 (b) UNCREWED AIRCRAFT SYSTEMS.—

22 (1) IN GENERAL.—The Under Secretary shall—

23 (A) research and assess the role and poten-
24 tial of uncrewed aircraft systems to improve
25 data collection in support of modeling, observa-

1 tions, predictions, forecasts, and impact-based
2 decision support services; and

3 (B) transition uncrewed aircraft systems
4 technologies from research to operations as the
5 Under Secretary considers appropriate.

6 (2) PILOT REQUIRED.—In carrying out para-
7 graph (1), not later than 1 year after the date of the
8 enactment of this Act, the Under Secretary shall
9 conduct at least 1 pilot of uncrewed aircraft systems
10 for fire weather and fire environment observations.

11 (3) SAVINGS CLAUSE.—

12 (A) IN GENERAL.—In carrying out activi-
13 ties under this subsection, the Under Secretary
14 shall ensure that any testing or deployment of
15 uncrewed aircraft systems follow procedures, re-
16 strictions, and protocols established by the
17 heads of the Federal agencies with statutory or
18 regulatory jurisdiction over any airspace in
19 which wildfire response activities are conducted
20 during an active wildfire event.

21 (B) CONSULTATION AND COORDINA-
22 TION.—The Under Secretary shall consult and
23 coordinate with relevant Federal land manage-
24 ment agencies and the Federal Aviation Admin-
25 istration to develop processes for the appro-

1 appropriate deployment of the systems described in
2 subparagraph (A).

3 **SEC. 9. FIRE WEATHER SURVEYS AND ASSESSMENTS.**

4 (a) ANNUAL POST-FIRE-WEATHER SEASON SURVEY
5 AND ASSESSMENT.—

6 (1) IN GENERAL.—During the second winter
7 following the enactment of this Act, and each year
8 thereafter, the Under Secretary shall conduct a post-
9 fire-weather season survey and assessment.

10 (2) ELEMENTS.—After conducting a post-fire-
11 weather season survey and assessment under para-
12 graph (1), the Under Secretary shall—

13 (A) investigate any gaps in data collected
14 during the assessment;

15 (B) identify and implement strategies and
16 procedures to improve program services and in-
17 formation dissemination;

18 (C) update systems, processes, strategies,
19 and procedures to enhance the efficiency and
20 reliability of data obtained from the assessment;

21 (D) evaluate the accuracy and efficacy of
22 physical fire weather forecasting information
23 for each incident included in the survey and as-
24 sessment; and

1 (E) assess and refine performance meas-
2 ures, as needed.

3 (b) SURVEYS AND ASSESSMENTS FOLLOWING INDI-
4 VIDUAL WILDFIRE EVENTS.—The Under Secretary may
5 conduct surveys and assessments following individual wild-
6 fire events as the Under Secretary determines necessary.

7 (c) GOAL.—In carrying out activities under this sec-
8 tion, the Under Secretary shall seek to increase the num-
9 ber of post-wildfire community impact studies, including
10 by surveying individual and collective responses and incor-
11 porating other applicable topics of social science research.

12 (d) ANNUAL BRIEFING.—Not less frequently than
13 once each year, the Under Secretary shall provide a brief-
14 ing to the appropriate committees of Congress that pro-
15 vides—

16 (1) an overview of the fire season; and

17 (2) an outlook for the fire season for the com-
18 ing year.

19 (e) COORDINATION.—In conducting any survey or as-
20 sessment under this section, the Under Secretary shall co-
21 ordinate with Federal, State, and local partners, Tribal
22 governments, private entities, and such institutions of
23 higher education as the Under Secretary considers rel-
24 evant in order to—

25 (1) improve operations and collaboration; and

1 (2) optimize data collection, sharing, integra-
2 tion, assimilation, and dissemination.

3 (f) DATA AVAILABILITY.—The Under Secretary shall
4 make the data and findings obtained from each assess-
5 ment conducted under this section available to the public
6 in an accessible digital format as soon as practicable after
7 conducting the assessment.

8 (g) SERVICE IMPROVEMENTS.—The Under Secretary
9 shall make best efforts to incorporate the results and rec-
10 ommendations of each assessment conducted under this
11 section into the research and development plan and oper-
12 ations of the Administration.

13 **SEC. 10. INCIDENT METEOROLOGIST SERVICE.**

14 (a) ESTABLISHMENT.—The Under Secretary shall es-
15 tablish and maintain an Incident Meteorologist Service
16 within the National Weather Service (in this section re-
17 ferred to as the “Service”).

18 (b) INCLUSION OF EXISTING INCIDENT METEOROLO-
19 GISTS.—The Service shall include—

20 (1) the incident meteorologists of the Adminis-
21 tration as of the date of this enactment of this Act;
22 and

23 (2) such incident meteorologists of the Adminis-
24 tration as may be appointed after such date.

25 (c) FUNCTIONS.—The Service shall provide—

1 (1) on-site impact-based decision support serv-
2 ices to Federal, State, Tribal government, and local
3 government emergency response agencies preceding,
4 during, and following wildland fires or other events
5 that threaten life or property, including high-impact
6 and extreme weather events; and

7 (2) support to Federal, State, Tribal govern-
8 ment, and local government decision makers, part-
9 ners, and stakeholders for seasonal planning.

10 (d) DEPLOYMENT.—The Service shall be deployed—

11 (1) as determined by the Under Secretary; or

12 (2) at the request of the head of another Fed-
13 eral agency.

14 (e) STAFFING AND RESOURCES.—In establishing and
15 maintaining the Service, the Under Secretary shall iden-
16 tify, acquire, and maintain adequate levels of staffing and
17 resources to meet user needs.

18 (f) SYMBOL.—

19 (1) IN GENERAL.—The Under Secretary may—

20 (A) create, adopt, and publish in the Fed-
21 eral Register a symbol for the Service; and

22 (B) restrict the use of such symbol as ap-
23 propriate.

24 (2) USE OF SYMBOL.—The Under Secretary
25 may authorize the use of a symbol adopted under

1 this subsection by any individual or entity as the
2 Under Secretary considers appropriate.

3 (3) CONTRACT AUTHORITY.—The Under Sec-
4 retary may award contracts for the creation of sym-
5 bols under this subsection.

6 (4) OFFENSE.—It shall be unlawful for any
7 person—

8 (A) to represent themselves as an official
9 of the Service absent the designation or ap-
10 proval of the Under Secretary;

11 (B) to manufacture, reproduce, or other-
12 wise use any symbol adopted by the Under Sec-
13 retary under this subsection, including to sell
14 any item bearing such a symbol, unless author-
15 ized by the Under Secretary; or

16 (C) to violate any regulation promulgated
17 by the Secretary under this subsection.

18 (g) SUPPORT FOR INCIDENT METEOROLOGISTS.—
19 The Under Secretary shall provide resources, access to
20 real-time fire weather forecasts, training, administrative
21 and logistical support, and access to professional coun-
22 seling or other forms of support as the Under Secretary
23 considers appropriate for the betterment of the emotional
24 and mental health and well-being of incident meteorolo-
25 gists and other employees of the Administration involved

1 with response to high-impact and extreme fire weather
2 events.

3 **SEC. 11. AUTOMATED SURFACE OBSERVING SYSTEM.**

4 (a) JOINT ASSESSMENT AND PLAN.—

5 (1) IN GENERAL.—The Under Secretary, in col-
6 laboration with the Administrator of the Federal
7 Aviation Administration and the Secretary of De-
8 fense, shall—

9 (A) conduct an assessment of resources,
10 personnel, procedures, and activities necessary
11 to maximize the functionality and utility of the
12 automated surface observing system of the
13 United States that identifies—

14 (i) key system upgrades needed to im-
15 prove observation quality and utility for
16 weather forecasting, aviation safety, and
17 other users;

18 (ii) improvements needed in observa-
19 tions within the planetary boundary layer,
20 including mixing height;

21 (iii) improvements needed in public
22 accessibility of observational data;

23 (iv) improvements needed to reduce
24 latency in reporting of observational data;

1 (v) relevant data to be collected for
2 the production of forecasts or forecast
3 guidance relating to atmospheric composi-
4 tion, including particulate and air quality
5 data, and aviation safety;

6 (vi) areas of concern regarding oper-
7 ational continuity and reliability of the sys-
8 tem, which may include needs for on-night
9 staff, particularly in remote and rural
10 areas and areas where system failure
11 would have the greatest negative impact to
12 the community;

13 (vii) stewardship, data handling, data
14 distribution, and product generation needs
15 arising from upgrading and changing the
16 automated surface observation systems;

17 (viii) possible solutions for areas of
18 concern identified under clause (vi), includ-
19 ing with respect to the potential use of
20 backup systems, power and communication
21 system reliability, staffing needs and per-
22 sonnel location, and the acquisition of crit-
23 ical component backups and proper storage
24 location to ensure rapid system repair nec-

1 essary to ensure system operational con-
2 tinuity; and

3 (ix) research, development, and transi-
4 tion to operations needed to develop ad-
5 vanced data collection, quality control, and
6 distribution so that the data are provided
7 to models, users, and decision support sys-
8 tems in a timely manner; and

9 (B) develop and implement a plan that ad-
10 dresses the findings of the assessment con-
11 ducted under subparagraph (A), including by
12 seeking and allocating resources necessary to
13 ensure that system upgrades are standardized
14 across the Administration, the Federal Aviation
15 Administration, and the Department of Defense
16 to the extent practicable.

17 (2) STANDARDIZATION.—Any system standard-
18 ization implemented under paragraph (1)(B) shall
19 not impede activities to upgrade or improve indi-
20 vidual units of the system.

21 (3) REMOTE AUTOMATIC WEATHER STATION
22 COORDINATION.—The Under Secretary, in collabora-
23 tion with relevant Federal agencies and the National
24 Interagency Fire Center, shall assess and develop co-
25 operative agreements to improve coordination, inter-

1 operability standards, operations, and placement of
2 remote automatic weather stations for the purpose
3 of improving utility and coverage of remote auto-
4 matic weather stations, automated surface observa-
5 tion systems, and other similar stations and systems
6 for weather and climate operations.

7 (b) REPORT TO CONGRESS.—

8 (1) IN GENERAL.—Not later than 2 years after
9 the date of the enactment of this Act, the Under
10 Secretary, in collaboration with the Administrator of
11 the Federal Aviation Administration and the Sec-
12 retary of Defense, shall submit to the appropriate
13 committees of Congress a report that—

14 (A) details the findings of the assessment
15 required by subparagraph (A) of subsection
16 (a)(1); and

17 (B) the plan required by subparagraph (B)
18 of such subsection.

19 (2) ELEMENTS.—The report required by para-
20 graph (1) shall include a detailed assessment of ap-
21 propriations required—

22 (A) to address the findings of the assess-
23 ment required by subparagraph (A) of sub-
24 section (a)(1); and

1 (B) to implement the plan required by sub-
2 paragraph (B) of such subsection.

3 (c) GOVERNMENT ACCOUNTABILITY OFFICE RE-
4 PORT.—Not later than 4 years after the date of the enact-
5 ment of this Act, the Comptroller General of the United
6 States shall submit to Congress a report that—

7 (1) evaluates the functionality, utility, reli-
8 ability, and operational status of the automated sur-
9 face observing system across the Administration, the
10 Federal Aviation Administration, and the Depart-
11 ment of Defense;

12 (2) evaluates the progress, performance, and
13 implementation of the plan required by subsection
14 (a)(1)(B);

15 (3) assesses the efficacy of cross-agency collabo-
16 ration and stakeholder engagement in carrying out
17 the plan and provides recommendations to improve
18 such activities;

19 (4) evaluates the operational continuity and re-
20 liability of the system, particularly in remote and
21 rural areas and areas where system failure would
22 have the greatest negative impact to the community,
23 and provides recommendations to improve such con-
24 tinuity and reliability;

1 (5) assesses Federal coordination regarding the
2 remote automatic weather station network, air re-
3 source advisors, and other Federal observing assets
4 used for weather and climate modeling and response
5 activities, and provides recommendations for im-
6 provements; and

7 (6) includes such other recommendations as the
8 Comptroller General determines are appropriate to
9 improve the system.

10 **SEC. 12. EMERGENCY RESPONSE ACTIVITIES.**

11 (a) DEFINITIONS.—In this section:

12 (1) BASIC PAY.—The term “basic pay” includes
13 any applicable locality-based comparability payment
14 under section 5304 of title 5, United States Code,
15 any applicable special rate supplement under section
16 5305 of such title, or any equivalent payment under
17 a similar provision of law.

18 (2) COVERED EMPLOYEE.—The term “covered
19 employee” means an employee of the Department of
20 Commerce.

21 (3) COVERED SERVICES.—The term “covered
22 services” means services performed by a covered em-
23 ployee while—

24 (A) serving as an incident meteorologist
25 accompanying a wildland firefighter crew;

- 1 (B) serving—
- 2 (i) on an incident management team;
- 3 (ii) as an emergency response spe-
- 4 cialist;
- 5 (iii) at the National Interagency Fire
- 6 Center;
- 7 (iv) at a Geographic Area Coordina-
- 8 tion Center; or
- 9 (v) at an operations center; or
- 10 (C) serving in a capacity determined by the
- 11 Secretary, or the Under Secretary acting on be-
- 12 half of the Secretary, to be primarily relating to
- 13 emergency response activities.

14 (4) EMPLOYEE.—The term “employee” has the

15 meaning given that term in section 2105 of title 5,

16 United States Code.

17 (5) PREMIUM PAY.—The term “premium pay”

18 means premium pay for the purposes of section

19 5547(a) of title 5, United States Code.

20 (b) WAIVER.—

21 (1) IN GENERAL.—Any premium pay received

22 by a covered employee for covered services shall be

23 disregarded in calculating the aggregate of the basic

24 pay and premium pay for the covered employee for

1 purposes of applying the limitation on premium pay
2 under section 5547(a) of title 5, United States Code.

3 (2) LIMITATION.—A covered employee may be
4 paid premium pay that is disregarded under para-
5 graph (1) only to the extent that the aggregate of
6 the basic pay and premium pay paid to that covered
7 employee in the applicable calendar year, including
8 premium pay that is disregarded under that para-
9 graph, does not exceed the rate of basic pay for a
10 position at level II of the Executive Schedule under
11 section 5313 of title 5, United States Code, as in ef-
12 fect at the end of that calendar year.

13 (c) APPLICATION.—If the application of subsection
14 (b) results in the payment of additional pay to a covered
15 employee of a type that is normally creditable as basic pay
16 for retirement or any other purpose, that additional pay
17 shall not—

18 (1) be considered to be basic pay of the covered
19 employee for any purpose; or

20 (2) be used in computing a lump-sum payment
21 to the covered employee for accumulated and ac-
22 crued annual leave under section 5551 or 5552 of
23 title 5, United States Code.

1 (d) AMENDMENT.—Section 5542(a)(5) of title 5,
2 United States Code, is amended by inserting “, the De-
3 partment of Commerce,” after “Interior”.

4 (e) EFFECTIVE DATE.—This section and the amend-
5 ment made by this section shall take effect as if enacted
6 on January 1, 2020.

7 (f) DERIVATION OF FUNDS.—Any amounts used to
8 pay covered employees for covered services shall not be
9 derived from amounts made available to the Administra-
10 tion or amounts saved by reducing the number of full-
11 time-equivalent employees of the Administration.

12 (g) POLICIES AND PROCEDURES FOR HEALTH,
13 SAFETY, AND WELL-BEING.—The Under Secretary shall
14 maintain policies and procedures that ensure that the de-
15 ployment of a covered employee to perform a covered serv-
16 ice will not compromise the health, safety, and well-being
17 of the covered employee.

18 **SEC. 13. GOVERNMENT ACCOUNTABILITY OFFICE REPORT**
19 **ON INTERAGENCY WILDFIRE FORECASTING,**
20 **PREVENTION, PLANNING, AND MANAGEMENT**
21 **BODIES.**

22 Not later than 1 year after the date of the enactment
23 of this Act, the Comptroller General of the United States
24 shall submit to Congress a report that—

1 (1) identifies all Federal interagency bodies es-
2 tablished for the purpose of wildfire forecasting, pre-
3 vention, planning, and management (such as wildfire
4 councils, commissions, and workgroups), including—
5 (A) the Wildland Fire Leadership Council;
6 (B) the National Interagency Fire Center;
7 (C) the Wildland Fire Management Policy
8 Committee;
9 (D) the Wildland Fire Mitigation and
10 Management Commission;
11 (E) the National Interagency Fire Center;
12 (F) the National Interagency Coordination
13 Center;
14 (G) the National Predictive Services Over-
15 sight Group;
16 (H) the Interagency Council for Advancing
17 Meteorological Services;
18 (I) the National Wildfire Coordinating
19 Group;
20 (J) the National Multi-Agency Coordi-
21 nating Group; and
22 (K) the Mitigation Framework Leadership
23 Group;
24 (2) evaluates the roles, functionality, and utility
25 of such interagency bodies;

1 (3) evaluates the progress, performance, and
2 implementation of such interagency bodies;

3 (4) assesses efficacy and identifies potential
4 overlap and duplication of such interagency bodies in
5 carrying out interagency collaboration with respect
6 to wildfire prevention, planning, and management;
7 and

8 (5) includes such other recommendations as the
9 Comptroller General determines are appropriate to
10 streamline and improve wildfire forecasting, preven-
11 tion, planning, and management, including rec-
12 ommendations regarding the interagency bodies for
13 which the addition of the Administration is nec-
14 essary to improve wildfire forecasting, prevention,
15 planning, and management.

16 **SEC. 14. AMENDMENTS TO INFRASTRUCTURE INVESTMENT**
17 **AND JOBS ACT RELATING TO WILDFIRE MITI-**
18 **GATION.**

19 The Infrastructure Investment and Jobs Act (Public
20 Law 117–58; 135 Stat. 429) is amended—

21 (1) in section 70202—

22 (A) in paragraph (1)—

23 (i) in subparagraph (J), by striking “;
24 and” and inserting a semicolon;

1 (ii) in subparagraph (K), by striking
2 the period at the end and inserting a semi-
3 colon; and

4 (iii) by adding at the end the fol-
5 lowing:

6 “(L) the Committee on Commerce,
7 Science, and Transportation of the Senate;
8 and”;

9 “(M) the Committee on Science, Space,
10 and Technology of the House of Representa-
11 tives.”; and

12 (B) in paragraph (6)—

13 (i) in subparagraph (B), by striking “;
14 and” and inserting a semicolon;

15 (ii) in subparagraph (C), by striking
16 the period at the end and inserting “;
17 and”;

18 (iii) by adding at the end the fol-
19 lowing:

20 “(D) The Secretary of Commerce, acting
21 through the Under Secretary of Commerce for
22 Oceans and Atmosphere.”; and

23 (2) in section 70203(b)(1)(B)—

24 (A) in the matter preceding clause (i), by
25 striking “9” and inserting “not fewer than 10”;

1 (B) in clause (i)—

2 (i) in subclause (IV), by striking “;
3 and” and inserting a semicolon;

4 (ii) in subclause (V), by adding “and”
5 at the end; and

6 (iii) by adding at the end the fol-
7 lowing:

8 “(VI) the National Oceanic and
9 Atmospheric Administration.”;

10 (C) in clause (iv), by striking “; and” and
11 inserting a semicolon; and

12 (D) by adding at the end the following:

13 “(vi) if the Secretaries determine it to
14 be appropriate, 1 or more representatives
15 from the relevant line offices of the Na-
16 tional Oceanic and Atmospheric Adminis-
17 tration; and”.

18 **SEC. 15. WILDFIRE TECHNOLOGY MODERNIZATION AMEND-**
19 **MENTS.**

20 Section 1114 of the John D. Dingell, Jr. Conserva-
21 tion, Management, and Recreation Act (43 U.S.C. 1748b-
22 1) is amended—

23 (1) in subsection (c)(3), by inserting “the Na-
24 tional Oceanic and Atmospheric Administration,”
25 after “Federal Aviation Administration,”;

1 (2) in subsection (e)(2)—

2 (A) by redesignating subparagraph (B) as
3 subparagraph (C); and

4 (B) by inserting after subparagraph (A)
5 the following:

6 “(B) CONSULTATION.—

7 “(i) IN GENERAL.—In carrying out
8 subparagraph (A), the Secretaries shall
9 consult with the Under Secretary of Com-
10 merce for Oceans and Atmosphere regard-
11 ing any development of impact-based deci-
12 sion support services that relate to wildlife-
13 related activities of the National Oceanic
14 and Atmospheric Administration.

15 “(ii) DEFINITION OF IMPACT-BASED
16 DECISION SUPPORT SERVICES.—In this
17 subparagraph, the term ‘impact-based deci-
18 sion support services’ means forecast ad-
19 vice and interpretative services the Na-
20 tional Oceanic and Atmospheric Adminis-
21 tration provides to help core partners, such
22 as emergency personnel and public safety
23 officials, make decisions when weather,
24 water, and climate impact the lives and

1 livelihoods of the people of the United
2 States.”; and

3 (3) in subsection (f)—

4 (A) by redesignating paragraphs (1) and
5 (2) as subparagraphs (A) and (B), respectively,
6 and moving such subparagraphs, as so redesign-
7 ated, 2 ems to the right;

8 (B) by striking “The Secretaries” and in-
9 serting the following:

10 “(1) IN GENERAL.—The Secretaries”; and

11 (C) by adding at the end the following:

12 “(2) COLLABORATION.—In carrying out para-
13 graph (1), the Secretaries shall collaborate with the
14 Under Secretary of Commerce for Oceans and At-
15 mosphere to improve coordination, utility of systems
16 and assets, and interoperability of data for smoke
17 prediction, forecasting, and modeling.”.

18 **SEC. 16. COOPERATION; COORDINATION; SUPPORT TO NON-**

19 **FEDERAL ENTITIES.**

20 (a) COOPERATION.—Each Federal agency shall co-
21 operate and coordinate with the Under Secretary, as ap-
22 propriate, in carrying out this Act and the amendments
23 made by this Act.

24 (b) COORDINATION.—

1 (1) IN GENERAL.—In meeting the requirements
2 under this Act and the amendments made by this
3 Act, the Under Secretary shall coordinate, and as
4 appropriate, establish agreements with Federal and
5 external partners to fully use and leverage existing
6 assets, systems, networks, technologies, and sources
7 of data.

8 (2) INCLUSIONS.—Coordination carried out
9 under paragraph (1) shall include coordination
10 with—

11 (A) the National Interagency Fire Center,
12 including the Predictive Services Program that
13 provides impact-based decision support services
14 to the wildland fire community at the Geo-
15 graphic Area Coordination Center and the Na-
16 tional Interagency Coordination Center;

17 (B) the National Wildfire Coordinating
18 Group; and

19 (C) relevant interagency bodies identified
20 in the report required by section 13.

21 (3) CONSULTATION.—In carrying out this sub-
22 section, the Under Secretary shall consult with Fed-
23 eral partners including—

24 (A) the National Aeronautics and Space
25 Administration;

- 1 (B) the Department of the Interior;
- 2 (C) the Federal Emergency Management
- 3 Agency;
- 4 (D) the National Science Foundation;
- 5 (E) the United States Geological Survey;
- 6 (F) the Department of Agriculture;
- 7 (G) the Environmental Protection Agency;
- 8 (H) the Department of Energy;
- 9 (I) the Department of Defense;
- 10 (J) the National Institute of Standards
- 11 and Technology; and
- 12 (K) such other departments and agencies
- 13 as the Under Secretary considers relevant.

14 (c) COORDINATION WITH NON-FEDERAL ENTI-

15 TIES.—Not later than 540 days after the date of the en-

16 actment of this Act, the Under Secretary shall develop and

17 submit to the appropriate committees of Congress a proc-

18 ess for annual coordination with Tribal, State, and local

19 governments to assist the development of improved fire

20 weather products and services.

21 (d) SUPPORT TO NON-FEDERAL ENTITIES.—In car-

22 rying out the activities under this Act and the amend-

23 ments made by this Act, the Under Secretary may provide

24 support to non-Federal entities by making funds and re-

25 sources available through—

1 (1) competitive grants;

2 (2) contracts under the mobility program under
3 subchapter VI of chapter 33 of title 5, United States
4 Code (commonly referred to as the “Intergovern-
5 mental Personnel Act Mobility Program”);

6 (3) cooperative agreements; and

7 (4) colocation agreements as described in sec-
8 tion 502 of the National Oceanic and Atmospheric
9 Administration Commissioned Officer Corps Amend-
10 ments Act of 2020 (33 U.S.C. 851 note prec.).

11 **SEC. 17. INTERNATIONAL COORDINATION.**

12 (a) IN GENERAL.—The Under Secretary may develop
13 collaborative relationships and agreements with foreign
14 partners and counterparts to address transboundary
15 issues pertaining to wildfires, fire weather, smoke, air
16 quality, and associated conditions and hazards or other
17 relevant meteorological phenomena, as appropriate, to fa-
18 cilitate full and open exchange of data and information.

19 (b) CONSULTATION.—In carrying out activities under
20 this section, the Under Secretary shall consult with the
21 Department of State and such other Federal partners as
22 the Under Secretary considers relevant.

1 **SEC. 18. SUBMISSIONS TO CONGRESS REGARDING THE**
2 **FIRE WEATHER SERVICES PROGRAM, INCI-**
3 **DENT METEOROLOGIST WORKFORCE NEEDS,**
4 **AND NATIONAL WEATHER SERVICE WORK-**
5 **FORCE SUPPORT.**

6 (a) REPORT TO CONGRESS.—Not later than 540 days
7 after the date of the enactment of this Act, the Under
8 Secretary shall submit to the appropriate committees of
9 Congress—

10 (1) the plan described in subsection (b);

11 (2) the assessment described in subsection (c);

12 and

13 (3) the assessment described in subsection (d).

14 (b) FIRE WEATHER SERVICES PROGRAM PLAN.—

15 (1) ELEMENTS.—The plan submitted under
16 subsection (a)(1) shall detail—

17 (A) the observational data, modeling re-
18 quirements, ongoing computational needs, re-
19 search, development, and technology transfer
20 activities, data management, skilled-personnel
21 requirements, engagement with relevant Federal
22 emergency and land management agencies and
23 partners, and corresponding resources and
24 timelines necessary to achieve the functions de-
25 scribed in subsection (b) of section 3 and the

1 priorities described in subsection (c) of such
2 section; and

3 (B) plans and needs for all other activities
4 and requirements under this Act and the
5 amendments made by this Act.

6 (2) SUBMITTAL OF ANNUAL BUDGET FOR
7 PLAN.—Following completion of the plan submitted
8 under subsection (a)(1), the Under Secretary shall,
9 not less frequently than once each year concurrent
10 with the submission of the budget by the President
11 to Congress under section 1105 of title 31, submit
12 to Congress a proposed budget corresponding with
13 the elements detailed in the plan.

14 (c) INCIDENT METEOROLOGIST WORKFORCE NEEDS
15 ASSESSMENT.—

16 (1) IN GENERAL.—The Under Secretary shall
17 conduct a workforce needs assessment on the cur-
18 rent and future demand for additional incident me-
19 teorologists for wildfires and other high-impact fire
20 weather events.

21 (2) ELEMENTS.—The assessment required by
22 paragraph (1) shall include the following:

23 (A) A description of staffing levels as of
24 the date on which the assessment is submitted

1 under subsection (a)(2) and projected future
2 staffing levels.

3 (B) An assessment of the state of the in-
4 frastructure of the National Weather Service as
5 of the date on which the assessment is sub-
6 mitted and future needs of such infrastructure
7 in order to meet current and future demands,
8 including with respect to information technology
9 support and logistical and administrative oper-
10 ations.

11 (3) CONSIDERATIONS.—In conducting the as-
12 sessment required by paragraph (1), the Under Sec-
13 retary shall consider factors including projected cli-
14 mate conditions, infrastructure, all hazard meteoro-
15 logical response system equipment, user needs, and
16 feedback from relevant stakeholders.

17 (d) SUPPORT SERVICES ASSESSMENT.—

18 (1) IN GENERAL.—The Under Secretary shall
19 conduct a workforce support services assessment
20 with respect to employees of the National Weather
21 Service engaged in emergency response.

22 (2) ELEMENTS.—The assessment required by
23 paragraph (1) shall include the following:

24 (A) An assessment of need for further sup-
25 port of employees of the National Weather

1 Service engaged in emergency response through
2 services provided by the Public Health Service.

3 (B) A detailed assessment of appropria-
4 tions required to secure the level of support
5 services needed as identified in the assessment
6 described in subparagraph (A).

7 (3) **ADDITIONAL SUPPORT SERVICES.**—Fol-
8 lowing the completion of the assessment required by
9 paragraph (1), the Under Secretary shall seek to ac-
10 quire additional support services to meet the needs
11 identified in the assessment.

12 **SEC. 19. AUTHORIZATION OF APPROPRIATIONS.**

13 There are authorized to be appropriated to the Ad-
14 ministration to carry out this Act and the amendments
15 made by this Act—

- 16 (1) \$55,000,000 for fiscal year 2023;
17 (2) \$125,000,000 for fiscal year 2024;
18 (3) \$135,000,000 for fiscal year 2025;
19 (4) \$150,000,000 for fiscal year 2026; and
20 (5) \$200,000,000 for fiscal year 2027.